

**TAMZEN WOOD MACBETH, 10-30-08**

**1**

1 IN THE UNITED STATES DISTRICT COURT FOR THE  
2 NORTHERN DISTRICT OF OKLAHOMA

3  
4 W. A. DREW EDMONDSON, in his )  
5 capacity as ATTORNEY GENERAL )  
6 OF THE STATE OF OKLAHOMA and )  
7 OKLAHOMA SECRETARY OF THE )  
ENVIRONMENT C. MILES TOLBERT,)  
in his capacity as the )  
TRUSTEE FOR NATURAL RESOURCES)  
FOR THE STATE OF OKLAHOMA, )  
 )  
Plaintiff, )  
 )  
vs. ) 4:05-CV-00329-TCK-SAJ  
TYSON FOODS, INC., et al, )  
 )  
Defendants. )  
-----  
12  
13  
14

15 THE DEPOSITION OF TAMZEN WOOD MACBETH,  
16 produced as a witness on behalf of the Defendants in  
17 the above styled and numbered cause, taken on the 30th  
18 day of October, 2008, in the City of Tulsa, County of  
19 Tulsa, State of Oklahoma, before me, Marlene Percefull,  
20 a Certified Shorthand Reporter, duly certified under  
21 and by virtue of the laws of the State of Oklahoma.  
22  
23  
24  
25

**TULSA FREELANCE REPORTERS  
918-587-2878**

**TAMZEN WOOD MACBETH, 10-30-08**

2

1           **A P P E A R A N C E S**2  
3   FOR THE PLAINTIFF:           Mr. Louis Bullock  
4                                  Attorney at Law  
5                                  110 W. 7th St.  
6                                  Suite 707  
7                                  Tulsa, OK 74119  
8                                  -and-  
9                                  Mr. David Page  
10                                 Attorney at Law  
11                                 502 West 6th Street  
12                                 Tulsa, OK 7411913  
14   FOR TYSON FOODS:           Mr. Gordon Todd  
15                                 Attorney at Law  
16                                 1501 K. Street, N.W.  
17                                 Washington, D.C. 2000518  
19   FOR CAL-MAINE:            Mr. Robert Sanders  
20                                 Attorney at Law  
21                                 2000 AmSouth Plaza  
22                                 P. O. Box 23059  
23                                 Jackson, MS 39225  
24                                 (Via phone)25  
26   FOR GEORGE'S:            Ms. K.C. Tucker  
27                                 Attorney at Law  
28                                 221 North College  
29                                 Fayetteville, AR 7270130  
31   FOR CARGILL:             Ms. Theresa Hill  
32                                 Attorney at Law  
33                                 100 West 5th St.  
34                                 Suite 400  
35                                 Tulsa, OK 74103  
36                                 Ms. Melissa Collins  
37                                 Attorney at Law  
38                                 1700 Lincoln St.  
39                                 Suite 3200  
40                                 Denver, CO 80203  
41                                 (Via phone)**TULSA FREELANCE REPORTERS  
918-587-2878**

**TAMZEN WOOD MACBETH, 10-30-08**

**3**

1 FOR PETERSON FARMS: Ms. Nicole Longwell  
2 Attorney at Law  
3 320 S. Boston  
4 Suite 700  
Tulsa, OK 74103

5 FOR SIMMONS FOODS: Ms. Vicki Bronson  
6 Attorney at Law  
7 211 East Dickson St.  
Fayetteville, AR 72701

**TULSA FREELANCE REPORTERS  
918-587-2878**

**TAMZEN WOOD MACBETH, 10-30-08**

29

1 staffed in-house? 9:02AM

2 **A** Yes.

3 **Q** Is that right? Okay.

4 **A** Now, for clarification -- so, for instance, the  
5 DNA sequencing component of it, we do submit those to 9:02AM  
6 the molecular research core facility and they actually  
7 do the DNA sequencing. So I guess when you say were  
8 there other labs that did a component of the work for  
9 that particular component, they also run the T-RFLP  
10 analysis for us because that has to be run on a DNA 9:03AM  
11 sequencer as well.

12 **Q** Was there any other part of the project that  
13 occurs to you that was done by anyone outside of North  
14 Wind?

15 **A** Not that I can think of specifically. 9:03AM

16 **Q** When did North Wind first get involved in this  
17 case?

18 **A** We first got involved in the spring of 2005, or  
19 that's the first that I heard of it, I believe.

20 **Q** Okay. How did North Wind's involvement come 9:03AM  
21 about?

22 **A** Kind of an interesting progression. During my  
23 graduate work at the Idaho National lab, when I was  
24 developing a lot of molecular techniques that we were  
25 using to characterize these hazard waste site microbial 9:04AM

**TAMZEN WOOD MACBETH, 10-30-08**

30

1       communities, I worked with Kent Sorenson, who was also                   9:04AM  
2       at the Idaho National Lab and he actually was on my  
3       graduate committee. He's a Ph.D. So we worked very  
4       closely together. He left Idaho National Laboratory  
5       and went to work with North Wind and subsequently                   9:04AM  
6       recruited me after I was finished with graduate school.  
7       Kent Sorenson now works at CDM with Roger Olsen. And  
8       so when this project came up, Kent approached me about  
9       using some of the tools that we have been using in our  
10      hazardous waste applications to develop, you know, a                   9:04AM  
11      marker and so that was how we became involved in the  
12      project.

13      **Q**     And when he first came to you, was it clear that  
14      you were being asked to develop a marker, that was the  
15      goal from the git-go?   9:05AM

16      **A**     Yes.

17      **Q**     Okay. Did North Wind sign a contract, you know,  
18      to work on this case?

19      **A**     Yes.

20      **Q**     What, one contract or multiple contracts?                   9:05AM

21      **A**     I -- multiple, I think. I would have to go back  
22      and look at the -- but, yeah, multiple contracts.

23      **Q**     Who signed them for North Wind?

24      **A**     Generally, Mike Bohlender, who is our contracts  
25      rep, but it could have been other -- we have several                   9:05AM

**TAMZEN WOOD MACBETH, 10-30-08**

35

1       **Q**     Okay. And then the relationship with Professor           9:10AM  
2     Harwood, you called -- you said that you developed the  
3     biomarker in collaboration with her?

4       **A**     Yes.

5       **Q**     All right. How would you describe her involvement   9:10AM  
6     in that process?

7       **A**     So Dr. Harwood provided context. We had an           9:11AM  
8     approach and a series of tools that have been well  
9     published within peer-reviewed literature that we had  
10    developed, not only ourselves but, like I said, the          9:11AM  
11    analyses that we use are fairly standard within the  
12    world of microbial ecology and hazardous waste  
13    characterization, which is our fields of expertise. We  
14    wanted to apply these tools to the field of microbial  
15    source tracking and Dr. Harwood provided the context      9:11AM  
16    for conducting this work in that application.

17       **Q**     When you say "tools," am I correct in  
18     understanding that you mean PCR, qPCR, T-RFLP --

19       **A**     Clone libraries, DNA sequencing, yes.

20       **Q**     Okay. Help me understand what you mean by          9:11AM  
21     context. That's a fairly abstract term when you say  
22     Professor Harwood provided context. What does that  
23     mean?

24       **A**     Sure. So we would -- for instance, in the          9:12AM  
25     beginning of the project, one of the things our

## TAMZEN WOOD MACBETH, 10-30-08

36

1 objectives, the questions that we were asking, is what 9:12AM  
2 are predominant or important populations within poultry  
3 litter that could be targeted as potential markers. So  
4 we took samples from litter and from soils. And so  
5 from North Wind's perspective, we applied the 9:12AM  
6 technologies. We received results and we said, okay,  
7 this is what we think is significant and Jody would  
8 take a look at those results and provide input about if  
9 she agreed or disagreed with the results.

10 Q Okay. But the initial decision-making of, say, 9:12AM  
11 we're going to start with T-RFLP and then we're going  
12 to move to PCR, those kind of decisions in the first  
13 instance -- I shouldn't say decisions. That kind of  
14 strategizing was made -- was done at North Wind in the  
15 first instance? 9:13AM

16 A Yes, but it was agreed to by Dr. Harwood.

17 Q We talked a little bit about Professor Harwood  
18 now. Who else on the State's team have you worked  
19 with?

20 A Roger Olsen. We have -- he directs or has 9:13AM  
21 directed us in terms of -- you know, he's kind of the  
22 contractual point of contact, so when you have a next  
23 phase of work, he would direct that next phase of work,  
24 as well as when we got to the sample processing, he  
25 directed us on which samples to process. 9:13AM

**TAMZEN WOOD MACBETH, 10-30-08****44**

1     **A**    We have essentially just a preliminary idea of                   9:22AM  
2       what they thought they had detections on and not, so  
3       they haven't quantified them as far as we're concerned  
4       as we know. And like I said, until we see the final  
5       result, all I know is kind of a verbal that they                   9:22AM  
6       thought things look good, so I can't really say until I  
7       see the --

8     **Q**    Fair enough. Fair enough. I don't want you to  
9       speak prematurely. Other than the work the reference  
10      lab is doing, is North Wind actively involved in any               9:22AM  
11      work for this case right now?

12    **A**    No.

13    **Q**    You're not doing any more testing?

14    **A**    No.

15    **Q**    Is there any plan to do any more testing?                   9:23AM

16    **A**    Not that I'm aware of.

17    **Q**    You submitted a manuscript to a journal?

18    **A**    Yes.

19    **Q**    Is there any preparation going on of any  
20      additional manuscripts?   9:23AM

21    **A**    We are -- we have received comments back from that  
22      first manuscript. We are responding to those comments  
23      and resubmitting that manuscript.

24    **Q**    What form do comments come back in?

25    **A**    Generally written comments.   9:23AM

**TULSA FREELANCE REPORTERS  
918-587-2878**

**TAMZEN WOOD MACBETH, 10-30-08**

55

1 biomarker? 9:51AM  
2 **A** Can you -- I'm not exactly sure.  
3 **Q** Sure. Well, at some point -- you were given this  
4 general task of going and creating a poultry litter  
5 specific assay? 9:51AM  
6 **A** Yes.  
7 **Q** So someone or someone had to say, you know, here  
8 is what I conceive of or here's what we conceive of as  
9 the way to go about doing this?  
10 **A** Yes. 9:52AM  
11 **Q** And you've articulated already this morning the  
12 steps --  
13 **A** Yes.  
14 **Q** -- that you went through to do that?  
15 **A** Yes. 9:52AM  
16 **Q** Whose idea was it?  
17 **A** The overall approach was -- the initial, I should  
18 say, take at it was mine. It was something that I had  
19 developed and discussed along with Kent Sorenson. The  
20 end product morphed somewhat with input from Jody 9:52AM  
21 Harwood, so -- and the T-RFLP process, for instance,  
22 with her experience with microbial source tracking, she  
23 said, let's look at E. coli populations, let's look at  
24 bacteroides. So conceptually we conceived of the steps  
25 and the tools that we would use, but the details of it 9:52AM

**TAMZEN WOOD MACBETH, 10-30-08**

**56**

1 were a collaboration between all of us. 9:52AM

2 Q Before she gave you that input, had you intended  
3 on looking at other bacteria?

4 A Yes. We, as -- the first step in all of this was  
5 to perform literature review, extensive literature 9:53AM  
6 review, basically, of methods that were being used for  
7 microbial source tracking and so we did that before we  
8 did anything else and before we finalized any of our  
9 approaches.

10 Q Do you recall any other aspect of the process that 9:53AM  
11 changed, morphed, I think, was your word, on account of  
12 Dr. Harwood's involvement?

13 A Sure. The overall approach didn't morph, but the  
14 specifics of it did. She provided a lot of really good  
15 input in terms of what we needed for quality control, 9:53AM  
16 how we determined specificity of the assay, how we  
17 determined, you know, utility of the assay in this  
18 aspect, so ultimately Jody was the one that constructed  
19 the types of samples that we needed to run to verify  
20 that this was working, to determine how useful and  
21 specific it was, so yes. 9:54AM

22 Q Well, let's go back through those. When you say  
23 that she gave you good ideas on quality control, what  
24 do you mean by that?

25 A She provided a lot of input about initially how to 9:54AM

**TAMZEN WOOD MACBETH, 10-30-08**

**183**

1       **Q**   And I believe that you told me earlier that sample 2:27PM  
2 selection was done by Roger Olsen?

3       **A**   Yes.

4       **Q**   Is that correct?

5                  MR. PAGE: Object to the form.                              2:27PM

6       **A**   Yeah, so Roger Olsen and Jody Harwood.

7       **Q**   Do you recall anyone else being involved in the  
8 sample selection process?

9       **A**   Not offhand.

10       **Q**   Okay. Do you remember David Page being involved   2:28PM  
11 in the sample selection process?

12       **A**   Not offhand.

13       **Q**   Okay. This is again a packet of e-mails that we  
14 took from the materials that North Wind produced to us.  
15 And it's a collection of e-mails that generally have to 2:28PM  
16 do with sample requests to test samples.

17       **A**   Okay.

18                  MR. PAGE: What has this been identified  
19 as, this document?

20                  MR. TODD: 8.    2:28PM

21                  MR. PAGE: Thank you.

22       **Q**   Let me have you turn to the second page. And you  
23 see here, this is an e-mail from you?

24       **A**   Uh-huh.

25       **Q**   Actually two e-mails here, but the first one is 2:29PM

**TAMZEN WOOD MACBETH, 10-30-08**

**184**

1 from you dated November 17, 2006, and sent to David 2:29PM  
2 Page and Roger Olsen and copied to Dr. Harwood and  
3 Jennifer Weidhass. And you say, "Hi David, Roger and  
4 Jody. We've successfully designed a SYBR Green qPCR  
5 protocol using the three primers that we outlined in 2:29PM  
6 the previous data meeting. We finished up protocol  
7 optimization and would like to run some additional  
8 field samples. Could you provide us with a list of  
9 additional samples that could perhaps contain different  
10 concentrations of the biomarker?" Did I read that 2:29PM  
11 correctly?

12 **A** Mm-hmm.

13 **Q** So you are requesting samples here for you to  
14 test, right?

15 **A** Yes. 2:29PM

16 **Q** Okay. And you directed this e-mail to -- I'm  
17 sorry. This is from Roger Olsen and it's sent -- no,  
18 no. It's from you and it's sent to David Page and  
19 Roger Olsen?

20 **A** Uh-huh. 2:30PM

21 **Q** Okay. Does that at all refresh your recollection  
22 that David Page was involved in sample selection?

23 **A** Well, we had discussions periodically. The e-mail  
24 is taken somewhat out of context. We had discussions  
25 about, like I said, the next phases of the protocol 2:30PM

## TAMZEN WOOD MACBETH, 10-30-08

185

1 development. And as I alluded to you before, we did 2:30PM  
2 have discussions about perhaps testing markers that had  
3 low, medium and high -- or may have low, medium and  
4 high concentrations of the markers. And in terms of --  
5 David was involved in some of those discussions so I 2:30PM  
6 probably just cc'd him because he had been on some of  
7 the calls or --

8 Q Okay. Well, you didn't actually cc him, you sent 2:30PM  
9 it to him. The cc line is Harwood and Weidhass. The  
10 to line is Olsen and Page.

11 A Yeah, that may be just -- I wouldn't read a lot 2:30PM  
12 into the to and cc. Because if you see, you know, I  
13 have actually addressed David, Roger and Jody  
14 specifically even though I cc'd Jody, so --

15 Q Let's go to the next e-mail and see what we can 2:31PM  
16 read into this. This e-mail is August 25th, 2007, from  
17 Roger Olsen to you and Jennifer Weidhass. And it  
18 reads, "Tamzen and Jennifer, David and I selected the  
19 first set of samples for analyses (about 70 samples).  
20 We should have the list to you on Monday or Tuesday." 2:31PM  
21 Does that at all refresh your recollection that David  
22 Page was involved in sample selection?

23 A Like I said, Jody, David and Roger had a lot of  
24 discussions. So, in my mind, it's all kind of -- I'm  
25 never sure who was directing when on that side. 2:31PM

**TAMZEN WOOD MACBETH, 10-30-08**

**186**

1       **Q**     This is probably an easier question. Do you have 2:31PM  
2     any basis for disputing what appears to be the case in  
3     this e-mail that David Page --

4                    MR. PAGE: Object to the form.

5       **Q**     -- was involved in the selection of samples? 2:32PM

6       **A**     No.

7       **Q**     Let's go to the next e-mail. This is -- look at  
8     the top e-mail, so the last one in this chain.

9                    October 26, 2007 from Roger Olsen to you. And says,  
10          "Thanks. I have selected 60 more samples for PCR 2:32PM  
11          (poultry) analyses. David should approve these  
12          tomorrow. Go to bed." Do you recall this e-mail?

13       **A**     I do not.

14       **Q**     Do you have any basis to question whether David  
15          Page was involved in approving sample selection? 2:32PM

16       **A**     I do not, but just to be clear, I mean, again,  
17          even from Jennifer's perspective, everybody was  
18          involved in sort of the expert team and so we may refer  
19          to one or the other people that were on the team and  
20          who we were, you know, speaking with at the time, 2:33PM  
21          without us necessarily, you know, understanding what  
22          everybody's roles were in the litigation. And we just  
23          knew that they were kind of our counterparts on the --

24       **Q**     I'm handing you what's been marked as Exhibit 9,  
25          which is an e-mail dated March 31st, 2008, from 2:33PM

**TULSA FREELANCE REPORTERS  
918-587-2878**